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U. S. NAVAL HOSPITAL
MARE ISLAND, VALLEJO, CALIFORNIA

NH15/A9-4(85-2)
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DOCUMENTS SECTION

1 March 1950

From: Officer in Charge, Artificial Limb Department.
To: Commanding Officer

Subj: Monthly report on the experimental work of the Artificial Limb Department.

Ref: (a) Advisory Committee on Artificial Limbs ltr of 21 Jun 1948
(b) Research Division ltr of 24 Jun 1949, BUMED CODE 71/DJD:gh

1. Monthly report required by references (a) and (b) is hereby submitted.
2. The following projects are under production, experimentation and further study:
(NM 007 084)

(a) Lower Extremities Section:

I. Foot and ankle (NM 007 084.30)

Additional patients are being fitted with the functional ankle joint.
Accelerating and field testing are continuing.

II. Shank (NM 007 084.10)

Additional plastic shins are being manufactured.

III. Knee

(A) Mechanical variabel cadence knee joint (NM 007 084.32)

Components are in the process of manufacture which it is hoped, will allow elimination of all brake lining material. Rubber bumpers on the knee stop referred to in January report have been worn by two (2) patients for over a month with good results. Accelerating testing is continuing on the variable cadence knee joint and nylon brake lining is being tried on a chrome plated bolt.

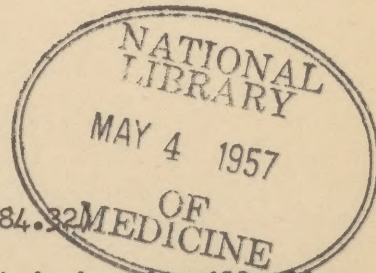
IV. Cosmetic Problem (NM 007 084.20)

A number of shins have been finished with flock. This material gives a pleasing cosmetic finish but its durability as noted on amputee's wearing this type of finished limb is somewhat deficient.

V. Brief summary of status of models as a unit.

(A) Soft socket (NM 007 084.16)

A Bolta-flex plastic is proving to be a good substitute for the leather lining. Additional cases are being fitted, utilizing this material. Leather has the tendency to swell when it become wet from the perspiration of the stump and has in some cases caused blisters and stump irritations in areas where the leather



becomes saturated. This condition does not occur when using the plastic liner and from the stand point of Hygiene the plastic is far superior.

(B) Suction Socket

One below knee case fitted with a suction socket utilizing a leather liner and a second prosthesis was fitted on the same case utilizing a liner of Bolta-flex plastic as a substitute for leather. This case prefers the plastic liner and has requested that the first prosthesis be changed to a plastic liner.

(b) Upper Extremities Section:

I. Above elbow arm (NM 007 084.17)

The elbow lock installed in the Navy-Fitch arm, continues to work in a satisfactory manner.

II. Hands, hooks and tools (NM 007 084.18)

Additional cases are being fitted with Robinson hands incorporating the automatic lock.

III. Cosmetic problem

No work has been done on the cosmetic problem this month.

V. Brief summary of status of models as a unit.

A below elbow amputee with a biceps cineplastic motor is being fitted. A new type peg has been designed for the motor. This peg is somewhat in a shape of a question mark and requires a single Boden cable attachment to the hook. In contrast to the former types where a double Boden cable attached to the peg. This further simplified the arm, makes it easier to fit and it is felt that there is a less loss of transmission of power through the single cable.

The bilateral above elbow amputee with pectoralis cineplastic motors is being fitted with a new pair of arms. The cable hook-up has been changed and turntable have been inserted in the arm section. This has been an improvement for this amputee and he can use his prosthesis to greater advantage especially when working his hooks close to the body, while dressing and eating.

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